image appearance of a portion of an electronic image on a display screen, which softens an edge transition to the adjacent areas. As described at col. 1, lines 34-51, Bollman's invention is related to a process called "dodging" typically used in a photographic developer, which is a processing for two-dimensional images. Bollman achieves such process using an electronic image. Bollman does not teach or suggest image processing for three-dimensional images. In contrast, Ueda relates to three-dimensional image processing.

The Office Action states that the motivation for combination is to provide a texture mapping apparatus and method capable of executing shading processing according to the color index method together with texture mapping processing. As asserted previously, this is merely an end result from the combination, and therefore, is not a valid motivation for one of ordinary skill in the art to combine Bollman and Ueda under 35 U.S.C. §103. Applicant respectfully submits that without a proper motivation for combination, which must be specifically taught or suggested by the applied art, such combination must rely on the hindsight knowledge gained from Applicant's disclosure.

Moreover, the Office Action admits that neither Bollman nor Ueda teaches or suggests that the virtual object polygon has a size equal to a size of a display screen as recited in claim 1 but alleges, "Game Boy discloses the size of the screen can be placed in the palm of your hand." However, Applicant respectfully submits that placing in the palm of a hand has nothing to do with a virtual object as recited in claim 1. In addition, the Office Action again does not provide a proper basis for combination of Game Boy with Bollman and Ueda.

In addition, claim 1 recites that an index number setting section sets image information of an original image as an index number in a lookup table for index color texture-mapping, that the index color texture-mapping is texture-mapping which maps a texture onto a virtual object while referring to the lookup table, and that the index number is set to each texel of the texture in a texture space.

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The Office Action asserts that Bollman teaches these features. Applicant respectfully disagrees. Applicant respectfully submits that, although Bollman discloses the use of indexed lookup tables, such lookup tables are used to reduce the color of the original image to a predetermined number of colors as described at col. 4, lines 5-10.

In the field of three-dimensional computer graphics, it is well known that texture-mapping is a process of adding details to any object by creating a picture or a pattern that can be "wrapped" around the object so that an object appears to include texture on its surface. A texel is a single element in a texture. Applicant respectfully attaches, as evidence, a copy of a dictionary definition of these terms from Microsoft Computer Dictionary, Fifth Edition (2002).

Bollman does not teach or suggest the lookup table for index color texture-mapping or the index number being set to each texel of the texture in a texture space.

Ueda discloses at col. 9, lines 29-37 a color look-up table memory 10. However, Ueda teaches that 2D source coordinates data for texture mapping data are assigned in the memory 10. Ueda does teach or suggest that the lookup table uses an index number being set to each texel of the texture in a texture space. Therefore, Ueda does not overcome the deficiencies of Bollman.

At least for the reasons described above, Applicant respectfully asserts that claim 1 is patentably distinct from the applied art.

Independent claims 19 and 37 each recite setting image information of an original image as an index number in a lookup table for index color texture-mapping, the index number being set to each texel of the texture in a texture space, and the texture linking to image information to be texture-mapped, and the virtual object being a polygon having a size equal to a size of a display screen or a size of a block obtained by dividing a display screen into blocks.

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Similar to claim 1, Applicant respectfully submits that none of the applied art as discussed above, teaches or suggests these features.

Claims 55-60 are allowable at least for their dependence on allowable base claims, as well as for the additional features they recite.

At least for these reasons, Applicant respectfully requests withdrawal of the rejection.

The Office Action rejects claims 4, 5, 8, 22, 23, 26, 40, 41 and 44 under 35 U.S.C. §103(a) over Bollman and Ueda, in view of U.S. Patent No. 6,597,363 to Duluk Jr. et al. (Duluk). This rejection is respectfully traversed.

Duluk does not overcome the deficiencies of Bollman, Ueda and Game Boy with respect to claims 1, 19 and 37 as described above. Therefore, claims 4, 5, 8, 22, 23, 26, 40, 41 and 44 are allowable at least for their dependence on allowable base claims as well as for the additional feature they recite. As such, withdrawal of the rejection is respectfully requested.

The Office Action rejects claims 6, 7, 24, 25, 42 and 43 under 35 U.S.C. §103(a) over Bollman and Ueda, in view of U.S. Patent No. 6,236,405 to Schilling et al. (Schilling). This rejection is respectfully traversed.

Schilling does not overcome the deficiencies of Bollman, Ueda and Game Boy with respect to claims 1, 19 and 37 as described above. Therefore, claims 6, 7, 24, 25, 42 and 43 are allowable at least for their dependence on allowable base claims as well as for the additional feature they recite. As such, withdrawal of the rejection is respectfully requested.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1, 4-8, 19, 22-26, 37, 40-44 and 55-60 are earnestly solicited.

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Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,

James A. Oliff
Registration No. 27,075

Robert A. Miller
Registration No. 32,771

JAO:KXH/hs

Attachment:
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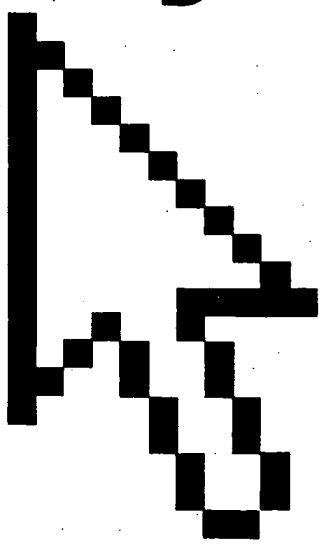

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PUBLISHED BY
Microsoft Press
A Division of Microsoft Corporation
One Microsoft Way
Redmond, Washington 98052-6399

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Library of Congress Cataloging-in-Publication Data
Microsoft Computer Dictionary.--5th ed.
p. ; cm.
ISBN 0-7356-1495-4
1. Computers--Dictionaries. 2. Microcomputers--Dictionaries.

AQ76.5. M52267 2002
004'.03--dc21 200219714

Printed and bound in the United States of America.

1 2 3 4 5 6 7 8 9 QWT 7 6 5 4 3 2

Distributed in Canada by Penguin Books Canada Limited.

A CIP catalogue record for this book is available from the British Library.

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terminal session *n.* The period of time spent actively using a terminal. *See also* session.

terminal strip *n.* A usually long and narrow assembly containing one or more electrical connectors. Commonly, terminal strips consist of screws on which bare wires are wrapped before the screws are tightened; for example, some consumer-grade stereo receiver/amplifiers incorporate a set of terminal strips on the rear panel for attaching speaker wires to the unit.

terminate *vb.* **1.** With reference to software, to end a process or program. Abnormal termination occurs in response to user intervention or because of a hardware or software error. **2.** With reference to hardware, to install a plug, jack, or other connector at the end of a wire or cable.

terminate-and-stay-resident program *n. See* TSR.

terminator *n.* **1.** A character that indicates the end of a string, such as the null character in an ASCIIZ string. *See also* ASCII, ASCIIZ string. **2.** An item of hardware that must be installed in the last device in a daisy chain or bus network, such as Ethernet or SCSI. The terminator caps the end of a cable in a bus network in order to keep signals from bouncing back along the line. *See also* terminator cap.

terminator cap *n.* A special connector that must be attached to each end of an Ethernet bus. If one or both terminator caps are missing, the Ethernet network will not work.

ternary *adj.* In programming, of, pertaining to, or characteristic of an element with three possible values, a condition that has three possible states, or a base-3 number system. *Compare* binary[1], unary.

tessellate *vb.* To break an image into small, square regions for processing or output.

test *vb.* To check program correctness by trying out various sequences and input values. *See also* debug, test data.

test automation software *n.* A program that automatically enters a predetermined set of characters or user commands in order to test new or modified versions of software applications.

test data *n.* A set of values used to test proper functioning of a program. Reasons for choosing particular test data include verifying known output (anticipated output) and pushing boundary conditions that might cause the program to fail.

test post *n.* A newsgroup article that contains no actual message but is used simply as a means of checking the connection. *See also* article, newsgroup.

TeX or **TEX** *n.* A text-formatting software system created by mathematician and computer scientist Donald Knuth for producing typeset-quality scientific, mathematical, or other complex technical documents from plain ASCII text input. Implementations of TeX for UNIX systems, MS-DOS and Windows, and the Apple Macintosh are available free over the Internet (ftp://ftp.tex.ac.uk/tex-archive/) or in commercial distributions (which often include enhancements). Commands in the input file produce format elements and special symbols; for example, ${\pi}r^2$ produces the expression πr^2. TeX is extensible through macros, and macro files are available for a wide variety of applications. *See also* LaTeX[1].

Texas Instruments Graphics Architecture *n. See* TIGA.

texel *n.* A single element in a texture. When a texture has been applied to an object, the texels rarely correspond to pixels on the screen. Applications can use texture filtering to control how texels are sampled and interpolated to pixels.

text *n.* **1.** Data that consists of characters representing the words and symbols of human speech; usually, characters coded according to the ASCII standard, which assigns numeric values to numbers, letters, and certain symbols. **2.** In word processing and desktop publishing, the main portion of a document, as opposed to headlines, tables, figures, footnotes, and other elements.

text box *n.* In a dialog box or HTML form, a box in which the user may enter text.

TextEdit *n.* A standard set of routines in the Macintosh operating system that are available to programs for controlling the way text is displayed. *See also* Toolbox.

text editor *n. See* editor.

text entry *n.* The inputting of text characters by means of a keyboard.

text file *n.* A file composed of text characters. A text file can be a word-processing file or a "plain" ASCII file encoded in a format practically all computers can use. *See also* ASCII file, text (definition 1).

text mode *n.* A display mode in which the monitor can display letters, numbers, and other text characters but no graphical images or WYSIWYG ("what-you-see-is-what-you-get") character formatting (italics, superscript, and so on). *Also called:* alphanumeric mode, character mode. *Compare* graphics mode.

text-only file *n. See* ASCII file.

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text-to-speech *n.* The conversion of text-based data into voice output by speech synthesis devices to allow users to gain access to information by telephone or to allow blind or illiterate people to use computers.

Text-to-Speech *n. See* TTS (definition 1).

texture *n.* In computer graphics, shading or other attributes added to the "surface" of a graphical image to give it the illusion of a physical substance. For example, a surface could be made to appear reflective to simulate metal or glass, or a scanned image of wood grain could be applied to a shape intended to simulate an object made of wood.

texture mapping *n.* In 3-D graphics, the process of adding detail to an object by creating a picture or a pattern that can be "wrapped" around the object. For example, a texture map of stones might be wrapped around a pyramid shape to create a realistic image. Texture mapping can also account for changes in perspective as the picture is wrapped around the shape. The technique is valued in 3-D graphics because it enables creation of detailed images without the performance degradation that can result from the computation required to manipulate images created with large numbers of polygons.

TFLOPS *n. See* teraflops.

TFT *n.* Acronym for thin film transistor. A transistor created using thin film methodology. *See also* active matrix display, thin film, transistor.

TFT display *n. See* active matrix display.

TFT LCD *n.* Acronym for thin film transistor liquid crystal display. *See* active matrix display.

TFTP *n. See* Trivial File Transfer Protocol.

TGA *n.* **1.** Short for Targa. A raster graphics file format from Truevision, Inc., that handles 16-, 24-, and 32-bit color. *See also* 16-bit color, 24-bit color, 32-bit color, raster graphics, video graphics board. **2.** The brand name of a series of high-resolution video graphics boards.

theme *n.* **1.** A set of visual elements that provide a unified look for your computer desktop. A theme determines the look of the various graphic elements of your desktop, such as the windows, icons, fonts, colors, and the background and screen saver pictures. It can also define sounds associated with events, such as opening or closing a program. **2.** A set of coordinated graphic elements applied to a document or Web page, or across all pages in a Web site. Themes can consist of designs and color schemes for fonts, link bars, and other page elements.

The Microsoft Network *n. See* MSN.

thermal printer *n.* A nonimpact printer that uses heat to generate an image on specially treated paper. The printer uses pins to produce an image, but rather than striking the pins against a ribbon to mark the paper as does a wire-pin dot-matrix printer, it heats the pins and brings them into gentle contact with the paper. The special coating on the paper discolors when it is heated.

thermal transfer printer *n. See* thermal wax-transfer printer.

thermal wax printer *n. See* thermal wax-transfer printer.

thermal wax-transfer printer *n.* A special type of nonimpact printer that uses heat to melt colored wax onto paper to create an image. Like a standard thermal printer, it uses pins to apply the heat. Rather than making contact with coated paper, however, the pins touch a wide ribbon saturated with different colored waxes. The wax melts under the pins and adheres to the paper.

thesaurus *n.* **1.** A book of words and their synonyms. **2.** In microcomputer applications, both a file of synonyms stored on disk and the program used to search the file.

The World—Public Access UNIX *n.* One of the oldest public access Internet service providers, based in Boston. In 1990, The World began offering full dial-up Internet access to the public. Other services include World Wide Web access, Usenet, SLIP/PPP support, telnet, FTP, IRC, Gopher, and e-mail. In 1995, The World began supporting local dial-up access via UUNET. *See also* ISP.

thick Ethernet *n. See* 10Base5.

thick film *adj.* A term describing a method used in the manufacture of integrated circuits. Thick film technology uses a stencil-like technique called *photosilkscreening* to deposit multiple layers of special inks or pastes on a ceramic substrate. The inks or pastes can be conducting, insulating, or resistive. The passive components (wires, resistors, and capacitors) of the integrated circuits are formed by depositing a series of films of different characteristics and patterns. *Compare* thin film.

ThickNet *n. See* 10Base5.

ThickWire *n. See* 10Base5.

thimble *n.* A type element, similar to a daisy wheel, that bears a full character set, with each character on a separate type bar. As with a daisy wheel, the spokes, or type bars, radiate out from a central hub. On a thimble print element,

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